

IN THE CLAIMS

Please amend the claims as follows:

1-3. (Cancelled)

4. (Currently Amended) ~~An apparatus according to claim 3~~ An information storage medium evaluation apparatus for evaluating an information storage medium, which comprises a wobbled track that is used to guide a light beam and is wobbled in correspondence with a frequency, a phase of which is modulated at predetermined timings to reflect predetermined information, comprising:

a detection unit configured to detect reflected light of the light beam with which the wobbled track formed on the information storage medium is irradiated;

a filter unit configured to suppress noise from a reproduction signal corresponding to the wobbled track on the basis of the reflected light detected by the detection unit;

a squaring unit configured to square the reproduction signal from which the noise is suppressed by the filter unit; and

an evaluation unit configured to evaluate a quality of the wobbled track on the basis of frequency characteristics of the squared reproduction signal squared by the squaring unit,

wherein when the squaring unit squares a predetermined sine wave and outputs the squared sine wave, a peak level at a predetermined frequency obtained from frequency characteristics of the sine wave appears at a frequency twice the predetermined frequency in frequency characteristics of the squared sine wave, and

the evaluation unit has characteristics that set a residual peak level corresponding to a residual level in the predetermined frequency obtained from the frequency characteristics of the squared sine wave to be lower by not less than 30 dB than a peak level that appears at the frequency twice the predetermined frequency.

5. (Currently Amended) ~~An apparatus according to claim 3~~ An information storage medium evaluation apparatus for evaluating an information storage medium, which comprises a wobbled track that is used to guide a light beam and is wobbled in correspondence with a frequency, a phase of which is modulated at predetermined timings to reflect predetermined information, comprising:

a detection unit configured to detect reflected light of the light beam with which the wobbled track formed on the information storage medium is irradiated;

a filter unit configured to suppress noise from a reproduction signal corresponding to the wobbled track on the basis of the reflected light detected by the detection unit;

a squaring unit configured to square the reproduction signal from which the noise is suppressed by the filter unit; and

an evaluation unit configured to evaluate a quality of the wobbled track on the basis of frequency characteristics of the squared reproduction signal squared by the squaring unit,

wherein when the squaring unit multiplies a predetermined sine wave containing a noise component and outputs the squared sine wave, a peak level at a predetermined frequency obtained from frequency characteristics of the sine wave appears at a frequency twice the predetermined frequency in frequency characteristics of the squared sine wave, and

the evaluation unit has characteristics that set a difference between a first difference between peak and noise levels obtained from the frequency characteristics of the sine wave and a second difference between peak and noise levels obtained from the frequency characteristics of the squared sine wave to be not more than 7 dB.

6. (Cancelled)

7. (Currently Amended) ~~A medium according to claim 6~~ An information storage medium for storing information, comprising:  
an information storage area for storing information; and  
a wobbled track which is used to guide a light beam on the information storage area,  
and is wobbled in correspondence with a frequency, a phase of which is modulated at  
predetermined timings to reflect predetermined information,  
wherein the wobbled track is formed so that when a reproduction signal  
corresponding to the wobbled track obtained from reflected light of the light beam, with  
which the wobbled track is irradiated, is squared, and the squared reproduction signal is  
evaluated on the basis of frequency characteristics of the squared reproduction signal, a  
difference between peak and noise levels obtained from the frequency characteristics of the  
squared reproduction signal becomes not less than 17 dB, wherein and the wobbled track is  
formed so that

a peak level at a predetermined frequency obtained from frequency  
characteristics of the reproduction signal appears at a frequency twice the  
predetermined frequency in the frequency characteristics of the squared reproduction  
signal, and

a residual peak level corresponding to a residual level in the predetermined  
frequency obtained from the frequency characteristics of the squared reproduction  
signal is lower by not less than 30 dB than the peak level, which appears at the  
frequency twice the predetermined frequency.

8-11. (Cancelled)

12. (Currently Amended) ~~A method according to claim 11~~ An information storage medium evaluation method for evaluating an information storage medium, which comprises a wobbled track that is used to guide a light beam and is wobbled in correspondence with a frequency, a phase of which is modulated at predetermined timings to reflect predetermined information, comprising:

detecting reflected light of the light beam with which the wobbled track formed on the information storage medium is irradiated;

suppressing noise from a reproduction signal corresponding to the wobbled track on the basis of the reflected light;

squaring the reproduction signal from which the noise is suppressed; and

evaluating a quality of the wobbled track on the basis of frequency characteristics of the squared reproduction signal,

wherein when the squaring process squares a predetermined sine wave and outputs the squared sine wave, a peak level at a predetermined frequency obtained from frequency characteristics of the sine wave appears at a frequency twice the predetermined frequency in frequency characteristics of the squared sine wave, and

the evaluating process has characteristics that set a residual peak level corresponding to a residual level in the predetermined frequency obtained from the frequency characteristics of the squared sine wave to be lower by not less than 30 dB than a peak level that appears at the frequency twice the predetermined frequency.

13. (Currently Amended) ~~A method according to claim 11~~ An information storage medium evaluation method for evaluating an information storage medium, which comprises a wobbled track that is used to guide a light beam and is wobbled in correspondence with a

frequency, a phase of which is modulated at predetermined timings to reflect predetermined information, comprising:

detecting reflected light of the light beam with which the wobbled track formed on the information storage medium is irradiated;

suppressing noise from a reproduction signal corresponding to the wobbled track on the basis of the reflected light;

squaring the reproduction signal from which the noise is suppressed; and

evaluating a quality of the wobbled track on the basis of frequency characteristics of the squared reproduction signal,

wherein when the squaring process multiplies a predetermined sine wave containing a noise component and outputs the squared sine wave, a peak level at a predetermined frequency obtained from frequency characteristics of the sine wave appears at a frequency twice the predetermined frequency in frequency characteristics of the squared sine wave, and

the evaluating process has characteristics that set a difference between a first difference between peak and noise levels obtained from the frequency characteristics of the sine wave and a second difference between peak and noise levels obtained from the frequency characteristics of the squared sine wave to be not more than 7 dB.

14-17. (Cancelled)

18. (Currently Amended) ~~A medium according to claim 6~~ An information storage medium for storing information, comprising:

an information storage area for storing information; and

a wobbled track which is used to guide a light beam on the information storage area, and is wobbled in correspondence with a frequency, a phase of which is modulated at predetermined timings to reflect predetermined information,

wherein the wobbled track is formed so that when a reproduction signal corresponding to the wobbled track obtained from reflected light of the light beam, with which the wobbled track is irradiated, is squared, and the squared reproduction signal is evaluated on the basis of frequency characteristics of the squared reproduction signal, a difference between peak and noise levels obtained from the frequency characteristics of the squared reproduction signal becomes not less than 17 dB, wherein and the wobbled track is formed so that

a peak level at a predetermined frequency obtained from frequency characteristics of the sine wave appears at a frequency twice the predetermined frequency in frequency characteristics of the squared sine wave, and

a difference between a first difference between peak and noise levels obtained from the frequency characteristics of the sine wave and a second difference between peak and noise levels obtained from the frequency characteristics of the squared sine wave ~~to be~~ is not more than 7 dB.